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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/598,011	08/15/2006	Niculo Steinrisser	P30190	9108
7055 7590 09/16/2009 GREENBLUM & BERNSTEIN, P.L.C. 1950 ROLAND CLARKE PLACE RESTON, VA 20191			EXAMINER AMIRI, NAHID	
			ART UNIT 3679	PAPER NUMBER
			NOTIFICATION DATE 09/16/2009	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

gbpatent@gbpatent.com  
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<b>Office Action Summary</b>	<b>Application No.</b> 10/598,011	<b>Applicant(s)</b> STEINRISSER, NICULO	
	<b>Examiner</b> NAHID AMIRI	<b>Art Unit</b> 3679	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 June 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 12-22 and 24-31 is/are pending in the application.
- 4a) Of the above claim(s) 27 and 28 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 12-22, 24-26 and 29-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 March 2007 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Amendment***

In view of Applicant's Amendment received 29 June 2009, amendments to the claims have been entered. Claims 1-11 and 23 are canceled. Claims 12-22 and 24-31 are pending.

### ***Election/Restriction***

With respect to Applicant's remarks that the restriction requirement mailed on 5/28/2009 is improper because the instant application is filed under 35 U.S.C. § 371, it is noted that the application had not been properly identified as a 371 application. Nevertheless, as a result of Applicant's remarks, it is now recognized that the instant application is a 371 application. It is further noted that the claims of the instant application lack unity in accordance with the criteria of 37 CFR 1.475 as is outlined below and thus the requirement to elect remains applicable.

Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

Group I. Claims 12-22, 24-26, 30, and 31, drawn to groove profile for a positive hub-shaft connection, classified in class 403, subclass 359.1.

Group II. Claim 27-29, drawn to a method of producing the groove profile, classified in class 29, subclass 557.

An assessment of the prior art with respect to the independent claims provides no unity of invention since the “special technical features”, i.e., “the at least one rib projects radially from one of the hub groove head, the hub groove root, the shaft groove head, and the shaft groove root” common in each of the independent claims is known from Powell (US 3,364,768). Applicant should note that the lack of unity is based on *a posteriori* and the special technical features, common to all inventions, do not define a contribution over the prior. See MPEP 1850.

Claims 27-29 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 29 June 2009.

### ***Drawings***

The drawings are objected to because the drawings fail to show at least one rib radially projecting from the shaft towards one of the grooves of the hub as specified in the claim 12, lines 5-6; and at least two parallel ribs radially extend one of the each hub grooves root and each shaft groove head and each shaft groove root, claim 19, lines 1-3. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 12-22 and 24-31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to claims 12, 13 and 22, it is unclear what exact elements Applicant is referring to as "a groove head" and "a groove root" of the hub and the shaft. Further, claim 12, lines 4-5, it is unclear how the rib could also be projected from the grooves of the shaft and at the same time projecting towards the groove of the hub, since from the drawing it appears to be if the rib projects from the grooves of the shaft then the rib is going to be away from the groove of the hub instead toward the groove of the hub. Same applies to claims 13 and 22.

With respect to the above rejection, it should be noted that no point of reference has been defined to enable one to properly ascertain what constitutes the hub groove, etc. For example, is the part of the hub that projects into the shaft groove supposed to constitute the claimed hub groove because a groove is defined on the side opposite the projecting portion or are the hub recesses located to either side of this projecting portion supposed to be the hub groove that is being referred to in the claims? Further, as defined in the specification, the grooves of one component are offset from the grooves of the other component, e.g., note 3, 3' and paragraph [0028]. Accordingly, it would appear that the language as used in the claims does not correspond to what has been shown and described.

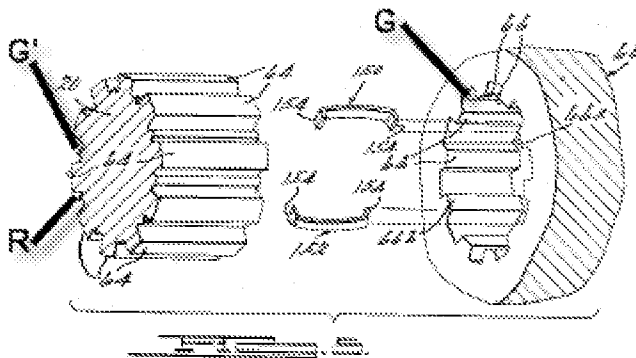
### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 12-21 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 3,364,768 Powell.**

With respect to claim 12, Powell discloses a groove profile for a positive hub-shaft connection comprising a hub (68) having a plurality of grooves (G) with an essentially quadrilateral groove cross section; a shaft (20) having a plurality of grooves (G') with an essentially quadrilateral groove cross section; at least one rib (R) radially projecting from one of the grooves (G') of the shaft (20) towards one of the grooves (G) of the other of the hub (68), a radially inward surface of the groove (G) of the hub (68) forms a hub groove head and a radially outward surface of the groove of the hub (68) forms a hub groove root; and a radially inward surface of the groove of the shaft (20) forms a shaft groove root and a radially outward surface of the groove of the shaft (20) forms a shaft groove head, wherein the at least one rib projects (R) radially from the shaft groove root. Powell fails to disclose that the rib projects radially from the hub groove head. However, whether the rib projects from the shaft or the hub is of little consequence to one of ordinary skill in the art since either will produce the same relative relationship. Further, it has been consistently held that the mere reversal of parts is not inventive. Accordingly, it would have been obvious to one of ordinary skill in the art at the time of invention was made to provide the rib to project radially from the hub groove head instead of shaft groove head, since it has been held that a mere reversal of the essential working parts of a device involves only routine skill in the art. *In re Einstein*, 8 USPQ 167.



With respect to claim 13, Powell discloses (Fig. 8) that the at least one rib (R) radially extends from each shaft groove root.

With respect to claim 14, Powell discloses (Fig. 8) that the at least one rib (R) runs parallel to a flank of the groove from which the rib (R) projects.

With respect to claim 15, Powell discloses (Fig. 8) that the at least one rib (R) runs along an entire length of the groove (G') from which the rib (R) projects.

With respect to claims 16, 17, and 21, Powell fails to disclose that the at least one rib has a trapezoidal cross section tapering outwards and has a maximum width of 50% or 25% of a width of a corresponding groove from which the rib projects; and wherein the essentially quadrilateral groove cross section is an essentially trapezoidal groove cross section. Applicants admit in specification, paragraph 009, line 2, that the groove is rectangular or trapezoidal. Therefore, there is no criticality with respect to a specific shape of rib and groove being claimed. Also, it is conventional design practice to routinely experiment to arrive at desired values for a particular intended use. It would have been an obvious matter of design choice as determined through routine experimentation and optimization to provide the trapezoidal cross section of Powell with a width of 50% or 25% of a width of a corresponding groove in order to provide the groove profile with a specific desirable dimensions and strength.

With respect to claim 18, Powell discloses (Fig. 8) that a radius of a support surface of the at least one rib (R) imparts a connection between the hub grooves (G) and the shaft grooves that is one of free from play and under initial stress with respect to a longitudinal axis of the hub (68) or the shaft (20).

With respect to claim 19, Powell fails to disclose that at least two parallel ribs radially extend one of each hub groove head, each hub groove root, each shaft groove head and each shaft groove root. It is well known in the art to provide the groove profile with more than one rib extending radially from the hub groove head for more securing the hub and the shaft from disengaging due to external pressure. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention was made to provide the groove profile of the Powell with at least two ribs extend radially from the hub groove head, since it has been held that mere duplication of the essential working parts of device involves only routine skill in the art. *St. Regis Paper Co. V. Bemis Co.*, 193 USPQ 8.

With respect to claim 20, Powell discloses (Fig. 8) that the essentially quadrilateral groove cross section is an essentially rectangular groove cross section.

With respect to claim 30, Powell discloses a groove profile (Fig. 5) the at least one rib (R) is formed in one piece from a material of the groove from which the at least one rib (R) project.

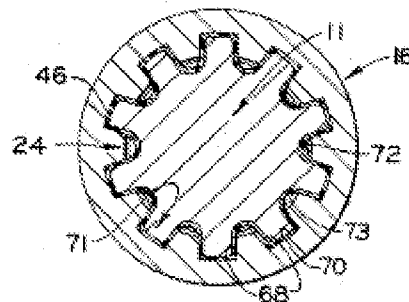
**Claims 22, 24-26 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over U S Patent No. 3,367,142 Groves et al. in view of Powell.**

With respect to claims 22 and 31, Groves et al. disclose telescopic tube (Fig. 5) for drive shafts comprising an outer tube (16) having a plurality of grooves with an essentially quadrilateral groove cross section; an inner tube (11) having a plurality of grooves with an essentially quadrilateral groove cross section. Groves et al. fail to disclose at least one rib radially projecting from one of the grooves of the inner tube towards one of the groove of the outer tube, a radially inward surface of the groove of the hub forms a hub groove head and a radially outward surface of the groove of the hub forms a hub groove root; and a radially inward surface of the groove of the shaft forms a shaft groove root and a radially outward surface of the groove of the shaft forms a shaft groove head, wherein the at least one rib projects radially from the shaft groove root; and wherein at least one rib is formed in one piece from a material of the groove from which the at least one rib project . Powell discloses a groove profile for a positive hub-shaft connection comprising a outer tube (68) having a plurality of grooves (G) with an essentially quadrilateral groove cross section; a shaft (20) having a plurality of grooves (G') with an essentially quadrilateral groove cross section; at least one rib (R) radially projecting from one of the grooves (G') of the shaft (20) towards one of the grooves (G) of the other of the hub (68), a radially inward surface of the groove (G) of the hub (68) forms a hub groove head and a radially outward surface of the groove of the hub (68) forms a hub groove root; and a radially inward surface of the groove of the shaft (20) forms a shaft groove root and a radially outward surface of the groove of the shaft (20) forms a shaft groove head, wherein the at least one rib projects (R) radially from the shaft groove root instead of hub groove head; and wherein at least one rib (R) is formed in one piece from a material of the groove (G') from which the at least one



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rib (R) project. It would have been obvious to one of ordinary skill in the art at the time of invention was made to provide the outer groove head of Groves et al. with at least one rib as taught by Powell in order prevent outer and inner tubes from disengaging from one another.

**FIG. 5**

23. (Previously Presented) The telescopic tube of claim 22, wherein a radially inward surface of the groove of the outer tube forms an outer tube groove head and a radially outward surface of the groove of the outer tube forms an outer tube groove root, and wherein a radially inward surface of the groove of the inner tube forms an inner tube groove root and a radially outward surface of the groove of the inner tube forms an inner tube groove head, the at least one rib projects radially from one of the outer tube groove head, the outer tube groove root, the inner tube groove head, and the inner tube groove root.

With respect to claim 24, Groves et al. disclose (Fig. 5) that the inner tube and the outer tube (11, 16) are hollow bodies each with an approximately uniform profile thickness; and wherein the essentially quadrilateral groove cross section is an essentially rectangular groove cross section.

With respect to claim 25, Groves et al. disclose (Fig. 5) that the essentially quadrilateral groove cross section is an essentially rectangular groove cross section.

With respect to claim 26, Groves et al. fail to disclose that the essentially quadrilateral groove cross section is an essentially trapezoidal groove cross section. There is no disclosed

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criticality with respect to a specific shape of rib and groove being claimed. Therefore, it would have been an obvious matter of design choice to one of ordinary skill in the art to provide the groove profile of Groves et al. with a rib having essentially trapezoidal groove cross section because it is well within the expected level of skill of one of ordinary skill to utilized desired shapes for a given application, producing no new and unexpected results.

### ***Response to Arguments***

Applicant's arguments with respect to claims 12-22 and 24-31 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nahid Amiri whose telephone number is (571) 272-8113. The examiner can normally be reached on Monday through Thursday from 8:00-6:30. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel P. Stodola can be reached on (571) 272-7087. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nahid Amiri  
Examiner  
Art Unit 3679  
August 19, 2009

/Daniel P. Stodola/  
Supervisory Patent Examiner, Art Unit 3679